

WHAT IS CLAIMED IS:

1. A personal authentication apparatus for certifying that a user is a person himself, comprising:

an image pickup unit for taking a face-picture of said user;

a particular person comparing unit for comparing said user's face-picture taken by said image pickup unit with a face-picture of a particular person held in advance;

a personal picture acquiring unit for acquiring the face-picture of said person himself from a memory; and

an authentication unit for deciding whether or not said user's face-picture taken by said image pickup unit is identical with the face-picture of said person himself acquired by said personal picture acquiring unit by a different method based upon the comparison result by said particular person comparing unit.

2. The personal authentication apparatus as claimed in claim 1, wherein said face-picture of said particular person is a face-picture of a suspected person,

said particular person comparing unit decides whether or not said user's face-picture is similar to the face-picture of said suspected person and outputs the decision result as said comparison result,

when said particular person comparing unit decides that said user's face-picture is similar to the face-picture of said suspected person, said authentication unit decides whether or not said user's face-picture is identical with the face-picture of said person himself with more strict reference.

3. The personal authentication apparatus as claimed in claim 2, wherein when said particular person comparing unit decides that said user's face-picture is similar to the face-picture of said suspected person, said image pickup unit heightens resolution or gradation, and takes the user's face-picture again,

said authentication unit decides whether or not said user's face-picture having the enhanced resolution or gradation is identical with the face-picture of said person himself in order to decide with more strict reference.

4. The personal authentication apparatus as claimed in claim 2, wherein said authentication unit increases the number of the features that are extracted from each of said user's face-picture and the face-picture of said person himself in order to decide with more strict reference.

5. The personal authentication apparatus as claimed in claim 2, wherein said authentication unit further acquires new features of appearance of said person himself to decide with more strict reference, and decides whether or not said user's face-picture is identical with the face-picture of said person himself using said newly acquired features.

6. The personal authentication apparatus as claimed in claim 2, wherein said image pickup unit takes said user's face-pictures as an animated image,

said personal picture acquiring unit acquires the animated image of the face-pictures of said person himself from said memory,

said authentication unit decides whether or not said user's

face-picture is identical with the face-picture of said person himself by comparing a plurality of frames in the animated image of said user's face-pictures and a plurality of frames in the animated image of the face-pictures of said person himself to decide with more strict reference.

7. The personal authentication apparatus as claimed in claim 1, wherein said authentication unit changes the type of the features that are extracted from each of said user's face-picture and the face-picture of said person himself based upon the comparison result by said particular person comparing unit.

8. The personal authentication apparatus as claimed in claim 3, wherein when said particular person comparing unit decides that said user's face-picture is similar to the face-picture of said suspected person, said image pickup unit takes said user's face-picture by irradiating an invisible light to said user,

said authentication unit decides whether or not said user's face-picture is identical with the face-picture of said person himself using said user's face-picture taken by irradiation of the invisible light to decide with more strict reference.

9. The personal authentication apparatus as claimed in claim 1, wherein said personal authentication apparatus certifies that a plurality of users is the person himself respectively,

said particular person comparing unit compares said user's face-picture taken by said image pickup unit with said face-pictures of a plurality of said particular persons,

further comprising a log holding unit for holding authentication times of the plurality of said persons himself

and the particular persons having a resemblance in response to the person himself,

said authentication unit decides a decision method of whether or not said user is the person himself using another authentication history of said person himself held in said log holding unit.

10. The personal authentication apparatus as claimed in claim 9, wherein each of said plurality of particular persons is the suspected person,

when deciding that said face-pictures of said plural other persons himself are similar to the face-pictures of said plural suspected persons respectively within a predetermined time, said authentication unit decides whether or not said user's face-picture is identical with the face-picture of said person himself with more strict reference.

11. The personal authentication apparatus as claimed in claim 1, wherein when said particular person comparing unit decides that said user's face-picture is similar to the face-picture of said suspected person, said authentication unit transmits said user's face-picture to a person deciding apparatus installed in other places than that of said personal authentication apparatus for deciding whether or not said user is said person himself.

12. The personal authentication apparatus as claimed in claim 1, wherein said image pickup unit includes a first image pickup unit and a second image pickup unit,

said particular person comparing unit compares said user's face-picture taken by said first image pickup unit with the

face-picture of said particular person,

when said particular person comparing unit decides that said user's face-picture is not similar to the face-picture of said suspected person, said authentication unit decides whether or not said user's face-picture taken by said first image pickup unit is identical with the face-picture of said person himself,

when said particular person comparing unit decides that said user's face-picture is similar to the face-picture of said suspected person, said authentication unit decides whether or not said user's face-picture taken by said second image pickup unit is identical with the face-picture of said person himself.

13. The personal authentication apparatus as claimed in claim 12, wherein said second image pickup unit generates the face-picture having more amount of information than that of the face-picture taken by said first image pickup unit.

14. The personal authentication apparatus as claimed in claim 1, wherein when said particular person comparing unit decides that said user's face-picture is similar to the face-picture of said suspected person, said authentication unit acquires said user's face-picture from other personal authentication apparatus provided on a path through which said user passes, and decides whether or not said user's face-picture taken by said image pickup unit is identical with the face-picture of said person himself using that face-picture.